ENVIRONMENTAL QUALITY AND BLIUE ECONOMY IN ASIA: ROLE OF FDI

By

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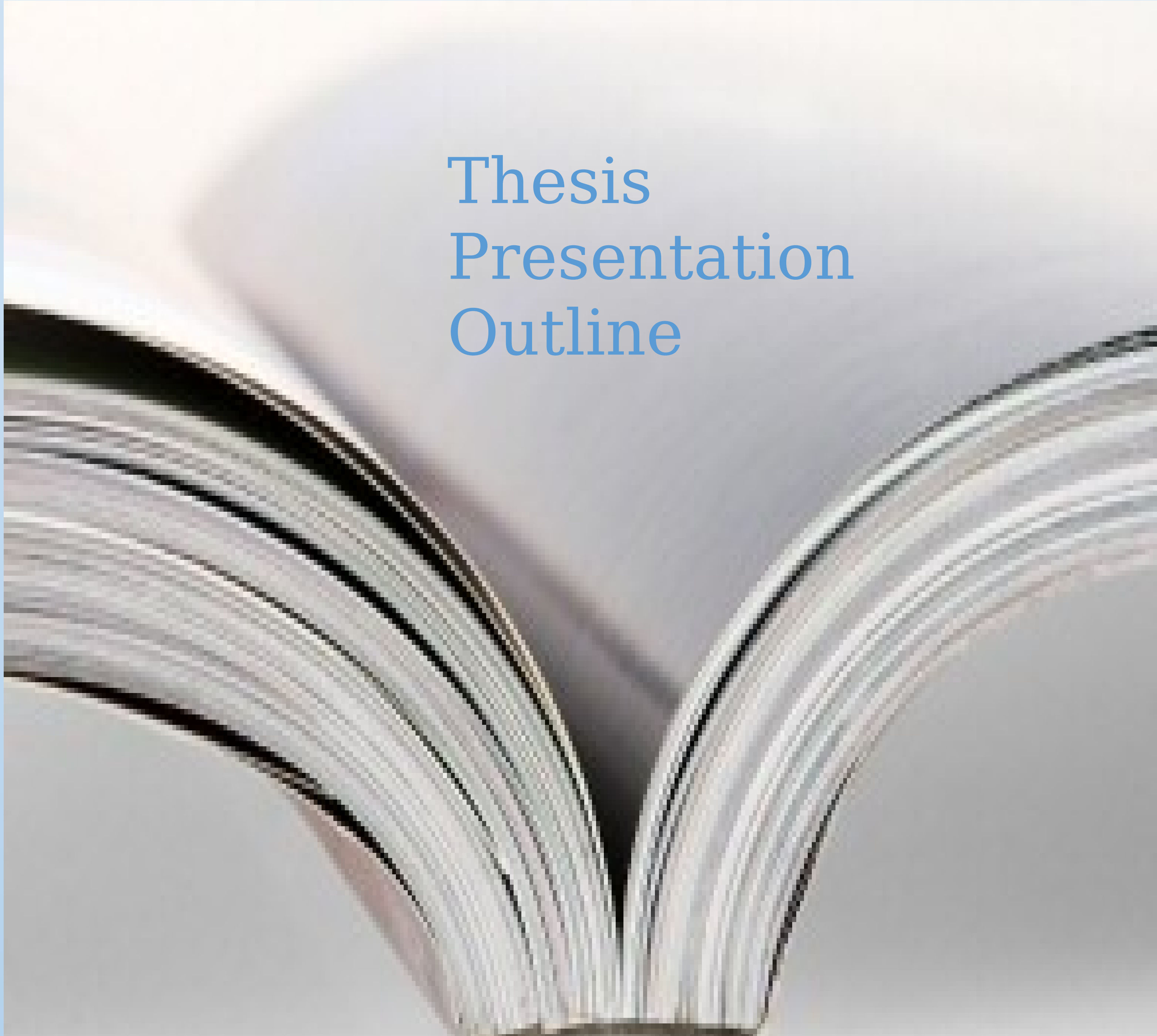
Thesis Presentation Outline

- Abstract
- Introduction
- Literature Review
- Methodology and Data
- Empirical Results and discussion
- Conclusion



Introduction

The sustainable use of ocean /sea resources ensures economic growth, create job Opportunities, and improves livelihood along with the perseverance of the oceanic ecosystem (World Bank, 2017).

Objectives of this study

There are 3 objectives of this study

Significance of Study

This study holds significance as it is first in its nature to provide the empirical evidence of the relationship of Environmental quality and Blue Economy in Asia (taking long term data), along with the account of moderating impacts of Foreign Direct Investment in Environmental water quality for achieving the success in this sector in order to achieve the Goal 14 of UN SDGs in Asia.

Statement of Problem

At this time, it has been found that rivers and other bodies in Asia are highly polluted and it is being ignored at a large level which hinders the flourishment of Blue Economy.

Hypothesis of Study

The hypotheses of this study are:

H1 = Environmental Quality significantly influence the size of blue economy in Asia.

H2= Foreign Direct Investment (FDI) positively moderates the relationship between environmental quality and blue economy in Asia.

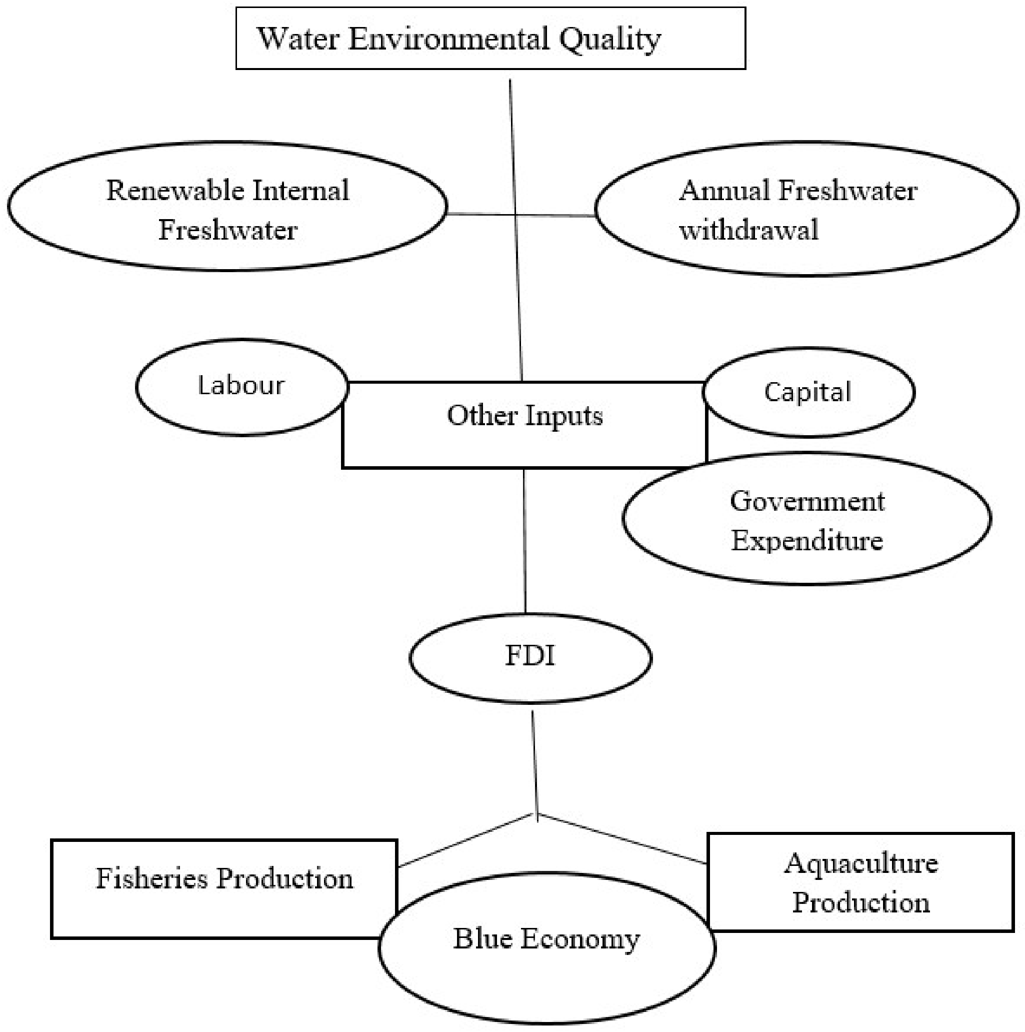
Literature Review

- Blue Economic Activities
- Blue Economy and Economic Growth
- Investments in Blue Economy
- **Environmental Quality and Blue Economy**

Methodology and Data

- Analytical Framew

Figure 3.1: Impact of Environmental Water Quality on Blue Economy



functional form of our model becomes:

$$lnBE = \beta 0 + \beta 1\, lnEWQ_{it} + \beta 2\, lnEWQ_{it}{*}FDI_{it} + \beta 3X_{it} + \upsilon_{it}$$

variables
Data

Dependent Variables

1. **Total fishery production (LFP)**
2. **Aquaculture production (LAP)**

Independent Variable

The variable named Environmental Water Quality (LEWQ), is taken for independent variable

Moderated Variable

Foreign Direct Investment

Controlled Variables

1. **General government final consumption expenditure (% of GDP)**
2. **Gross capital formation (% of GDP)**
3. **Labour force participation rate**

Our study is investigating the impact of Environmental Quality (Water Quality) on Blue Economy in 37 Asian countries along with the influence of FDI in it. For this purpose Data from WDI for years 1992-2020 for these variables is taken.

- **Econometric Methodology**

Fixed Effect Methods

Fixed effect models tackle heterogeneity in groups with various intercepts by using the Ordinary Least Squares method.

$\mathit{ln}BE = + \beta 1 \mathit{ln}EWQ_{it} + \beta 2 \mathit{ln}EWQ_{it}*FDI_{it} + \beta 3X_{it} + \upsilon_{it}$

Random Effect Methods

This model takes random constants for each group, unlike fixed effect models, which use time-variant dummy variables.

$\mathit{ln}BE = + \beta 1 \mathit{ln}EWQ_{it} + \beta 2 \mathit{ln}EWQ_{it}*FDI_{it} + \beta 3X_{it} + \upsilon_{it}$

Hausman Test

Between fixed and random effect models, Hausman (1978) suggested a test to determine which model was more appropriate.

Resul

we have two dependent variables (Aquaculture production and Fisheries production) for our Focused variable (Environmental Water Quality).

- eight models (two basic models of fixed effect and random effect for aquaculture production and two simple models of fixed effect and random effect for fisheries production).
- four models for understanding the moderating effects of FDI (two interactive aquaculture production models for fixed effect and random effect and two interactive fisheries production models for fixed effect and random effect).

Fixed Effect Model (FEM) and Random Effect Model (REM) for Aquaculture Production

		(1)	(2)	(3)	(4)
	VARIABLES	FE1	RE1	FE2	RE2
Focu Varia	LWEQ	1.266***	0.683***	0.927***	0.532***
		(0.174)	(0.147)	(0.188)	(0.167)
Controlled Varia	LFDI	0.241***	0.246***		
		(0.0186)	(0.0192)		
	LFPR	0.0133	0.0184	0.00613	0.0116
		(0.0116)	(0.0116)	(0.0126)	(0.0124)
	INV	0.00671	0.00712	0.0127***	0.0132***
		(0.00471)	(0.00485)	(0.00475)	(0.00480)
	GE	0.0361***	0.0343***	0.0521***	0.0504***
		(0.0119)	(0.0122)	(0.0122)	(0.0123)
Moder Varia	LWEQLFDI			0.00904***	0.00922***
				(0.00159)	(0.00161)
	CONSTANT	-1.075	0.607	4.573***	5.718***
		(1.034)	(1.089)	(1.030)	(1.147)
	Diagnostics				
	Observations	820	820	869	869
	R-squared	0.241	0.2300	0.102	0.0975
	Prob > F	0.000	0.0000	0.0000	0.0000
	Number of id	34	34	34	34
	Hausman Test (p-value)	0.000		0.000	

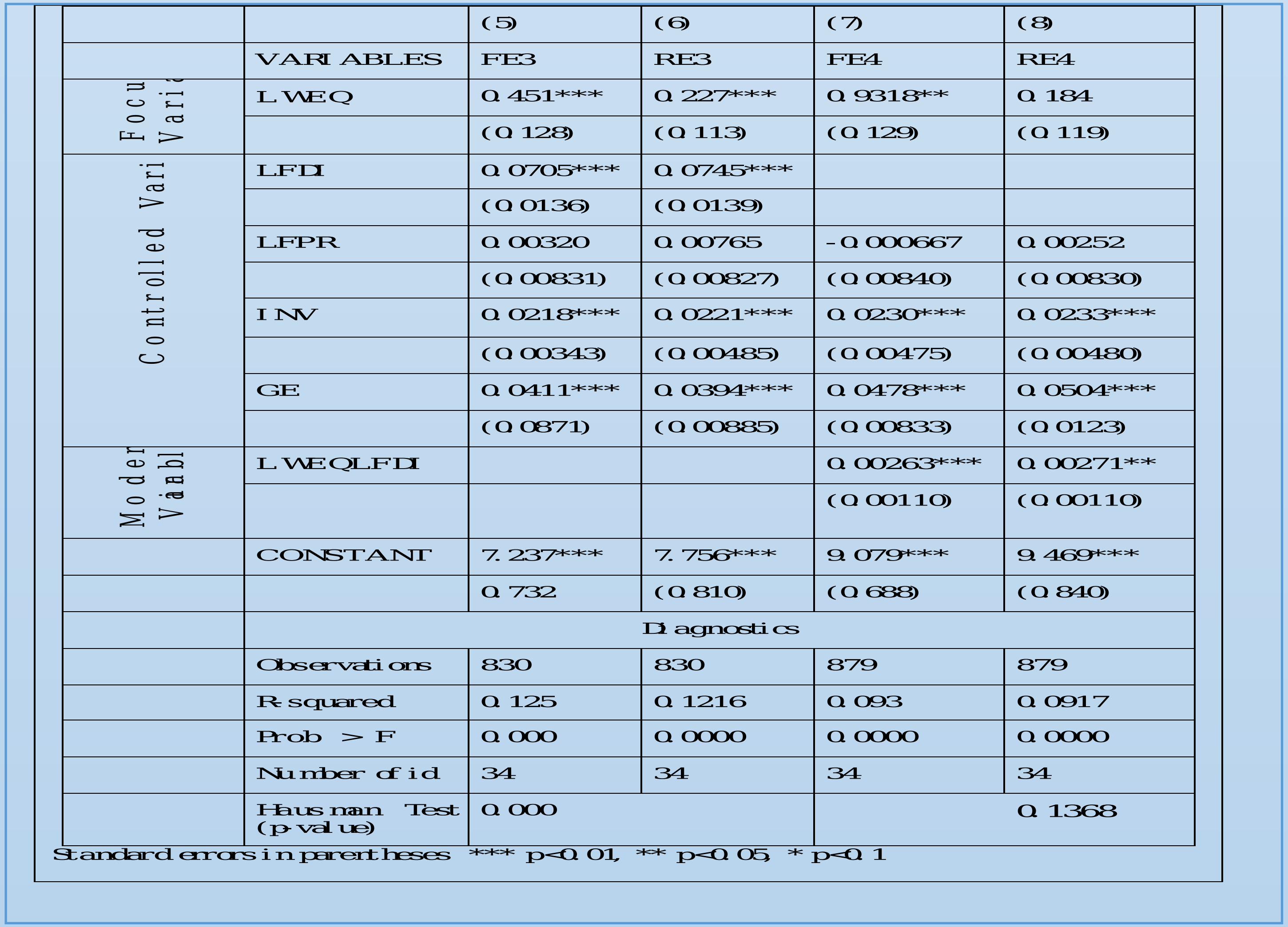
ndard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Model Selection: Hausman Test for Simple and interactive model of Aquaculture production

Model 1 (FE1) and Model 3(FE2) are selected respectively

Results

Fixed Effect Model (FEM) and Random Effect Model (REM) for Fisheries Production



		(5)	(6)	(7)	(8)
	VARIABLES	FE3	RE3	FE4	RE4
Focu Vari	LWEQ	0.451***	0.227***	0.9318**	0.184
		(0.128)	(0.113)	(0.129)	(0.119)
Controlled Vari	LFDI	0.0705***	0.0745***		
		(0.0136)	(0.0139)		
	LFPR	0.00320	0.00765	-0.000667	0.00252
		(0.00831)	(0.00827)	(0.00840)	(0.00830)
	INV	0.0218***	0.0221***	0.0230***	0.0233***
		(0.00343)	(0.00485)	(0.00475)	(0.00480)
	GE	0.0411***	0.0394***	0.0478***	0.0504***
		(0.0871)	(0.00885)	(0.00833)	(0.0123)
Moder Variabl	LWEQLFDI			0.00263***	0.00271**
				(0.00110)	(0.00110)
	CONSTANT	7.237***	7.756***	9.079***	9.469***
		0.732	(0.810)	(0.688)	(0.840)
	Diagnostics				
	Observations	830	830	879	879
	R-squared	0.125	0.1216	0.093	0.0917
	Prob > F	0.000	0.0000	0.0000	0.0000
	Number of id	34	34	34	34
	Hausman Test (p-value)	0.000			0.1368

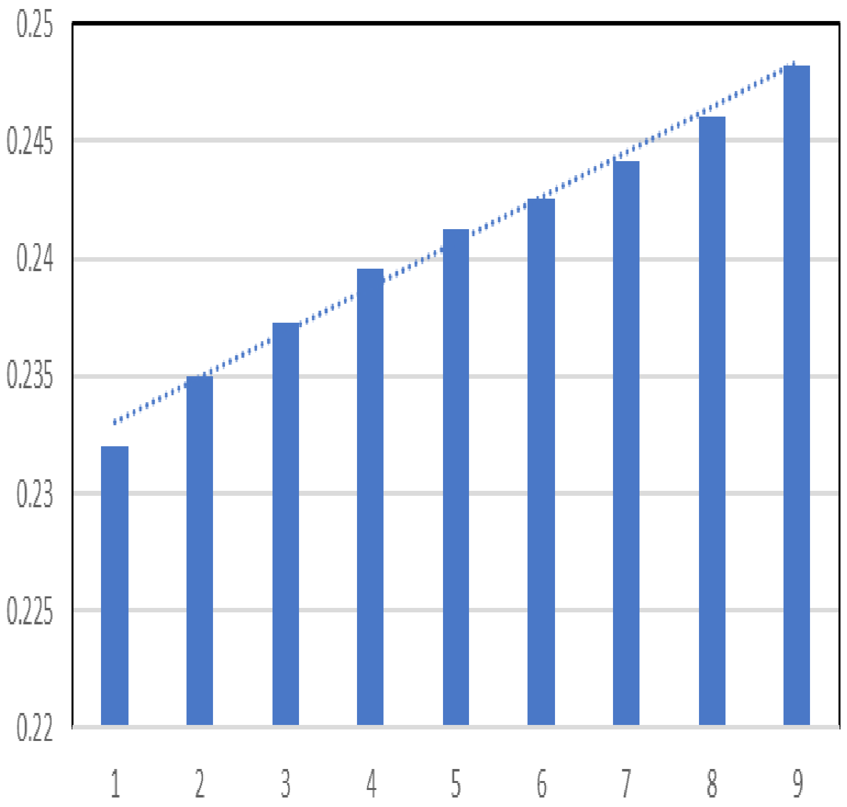
Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Model Selection: Hausman Test for Simple and interactive model of Fisheries production

Model 5 (FE3) and Model 8(RE4) are selected respectively

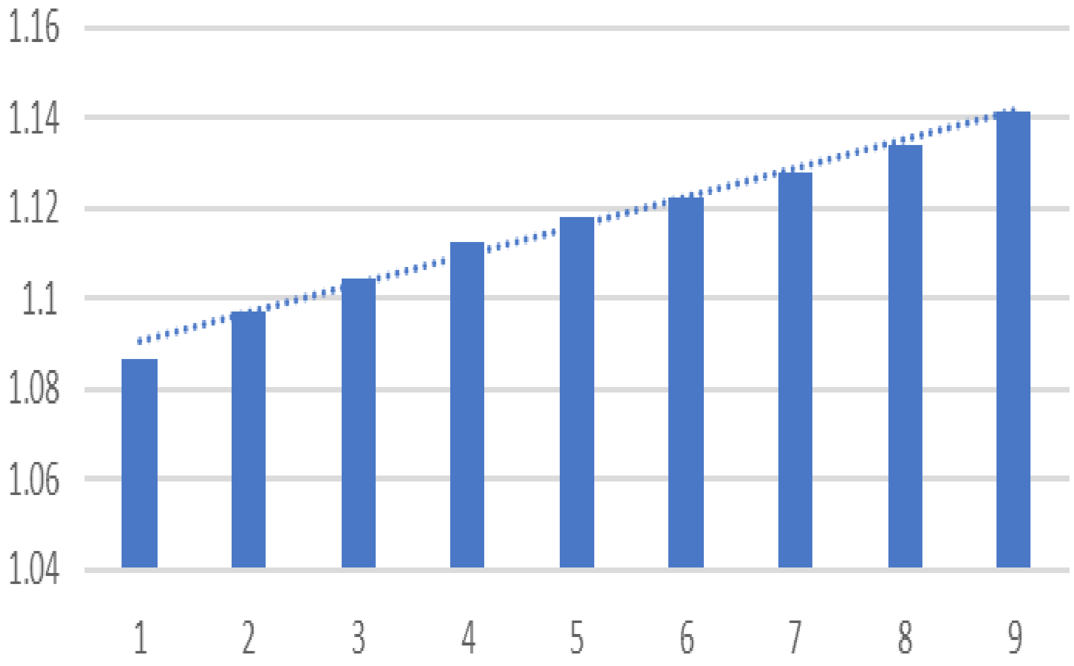
LFDI moderating impact

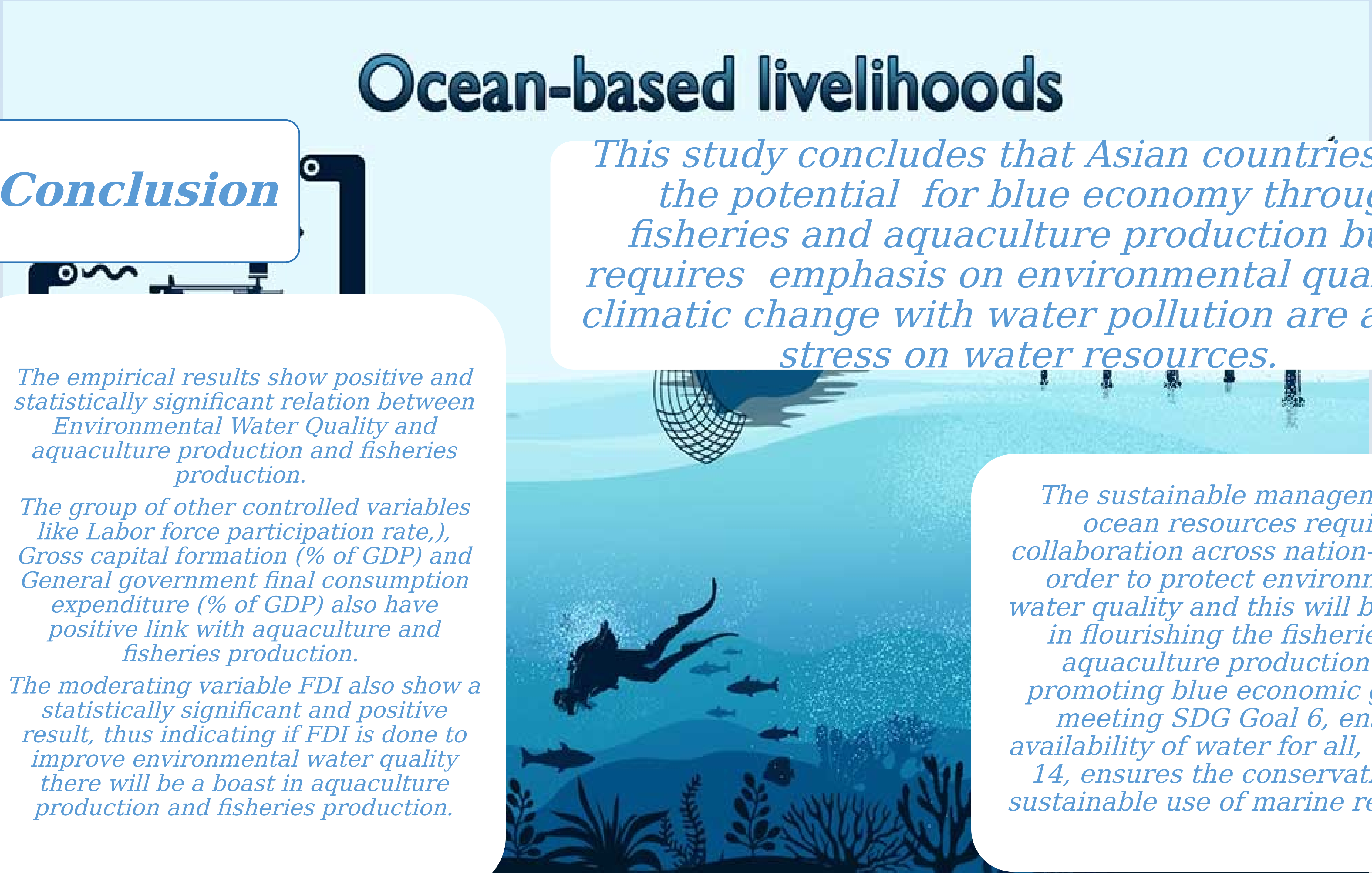
Graph 4.1: Impact of Environmental Quality on Fisheries Production via FDI



From graph 4.1 and 4.2, we conclude that the graph LAP is smoother compared to LFP, this indicates LFDI has more impact on aquaculture production than fisheries production

Graph 4.2: Impact of Environmental Quality on Aquaculture Production via FDI





Conclusion

This study concludes that Asian countries have the potential for blue economy through fisheries and aquaculture production but it requires emphasis on environmental quality as climatic change with water pollution are adding stress on water resources.

The empirical results show positive and statistically significant relation between Environmental Water Quality and aquaculture production and fisheries production.

The group of other controlled variables like Labor force participation rate,), Gross capital formation (% of GDP) and General government final consumption expenditure (% of GDP) also have positive link with aquaculture and fisheries production.

The moderating variable FDI also show a statistically significant and positive result, thus indicating if FDI is done to improve environmental water quality there will be a boast in aquaculture production and fisheries production.

The sustainable management of ocean resources requires collaboration across nation-states in order to protect environmental water quality and this will be helpful in flourishing the fisheries and aquaculture production thus promoting blue economic growth, meeting SDG Goal 6, ensures availability of water for all, and Goal 14, ensures the conservation and sustainable use of marine resources.

Thank you!